

Applicant: KIPPIE, David P. Atty. Ref.: PA-00404US

AMENDMENTS TO THE CLAIMS:

Please amend the specification as indicated below:

1. (Currently Amended) A monovalent cation containing well fluid comprising: a single brine

system aqueous monovalent brine system and an amount of a starch derivative selected such that

the well fluid has the following characteristics:

(a) a low shear rate viscosity greater than about 5,000 centipoise;

(b) a high shear rate viscosity at 511 sec⁻¹ in the range from about 15 to about 70

centipoise measured at 120°F, wherein the single aqueous monovalent brine system consists

essentially of at least 0.6 equivalents per liter of a water soluble monovalent cation salt, wherein

the anion of the salt is a halide, wherein the monovalent cation salt is substantially free of

divalent cations, and wherein the well fluid is substantially free of xanthan gum.

2. (Previously Presented) The well fluid of claim 1, wherein the starch derivative comprises a

pre-gelatinized crosslinked amylopectin starch which has been crosslinked to about 25% to about

60% of the maximum attainable viscosity.

3. (Original) The well fluid of claim 1, further comprising a particulate bridging agent which is

substantially insoluble in the aqueous brine.

4. (Currently Amended) A method of treating a well that comprises:

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adding a well fluid comprising a single <u>brine system monovalent aqueous brine system</u> and an amount of a starch derivative selected such that the well fluid has the following characteristics:

- (a) a low shear rate viscosity greater than about 5,000 centipoise;
- (b) a high shear rate viscosity at 511 sec⁻¹ in the range from about 15 to about 70 centipoise measured at 120°F to the well; and

causing the well fluid to travel through at least a portion of the well, wherein the <u>single</u> monovalent aqueous brine system consists essentially of at least 0.6 equivalents per liter of a water soluble monovalent cation salt, wherein the anion of the salt is a halide, wherein the monovalent cation salt is substantially free of divalent cations, and wherein the well fluid is substantially free of xanthan gum.

- 5. (original) The method of claim 4, wherein the fluid further comprises a particulate bridging agent which is substantially insoluble in the aqueous brine.
- 6. (Currently Amended) A monovalent cation containing well fluid comprising: a single aqueous monovalent brine system, and a viscosifying agent including a starch derivative, wherein the starch derivative is a pregelatinized crosslinked amylopectin starch which has been crosslinked to about 25% to about 60% of the maximum attainable viscosity, wherein the aqueous monovalent single brine system consists essentially of at least 0.6 equivalents per liter of a water soluble monovalent cation salt, wherein the anion of the salt is a halide, wherein the monovalent cation salt is substantially free of divalent cations, and wherein the well fluid is substantially free of xanthan gum.



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7. (canceled)

8. (canceled)

9. (Previously Presented) The monovalent cation containing well fluid of Claim 2, wherein

the pre-gelatinized crosslinked amylopectin starch comprises less than 10 wt% amylase.

10. (Previously Presented) The monovalent cation containing well fluid of Claim 6, wherein

the pre-gelatinized crosslinked amylopectin starch comprises less than 10 wt% amylase.

11. (New) A monovalent cation containing well fluid comprising: an aqueous monovalent brine

system and an amount of a starch derivative selected such that the well fluid has the following

characteristics:

(a) a low shear rate viscosity greater than about 5,000 centipoise;

(b) a high shear rate viscosity at 511 sec⁻¹ in the range from about 15 to about 70

centipoise measured at 120°F, wherein the aqueous monovalent brine system comprises at least

90% of the well fluid, and wherein the aqueous monovalent brine system consists essentially of

at least 0.6 equivalents per liter of a water soluble monovalent cation salt, wherein the anion of

the salt is a halide, wherein the monovalent cation salt is substantially free of divalent cations.

and wherein the well fluid is substantially free of xanthan gum.

12. (New) The well fluid of claim 11, wherein the starch derivative comprises a pre-gelatinized

crosslinked amylopectin starch which has been crosslinked to about 25% to about 60% of the

maximum attainable viscosity.

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13. (New) The monovalent cation containing well fluid of Claim 12, wherein the pregelatinized crosslinked amylopectin starch comprises less than 10 wt% amylase.

14. (New) The well fluid of claim 11, further comprising a particulate bridging agent which is

substantially insoluble in the aqueous brine.

15. (New) A method of treating a well that comprises:

adding a well fluid comprising an aqueous monovalent brine system and an amount of a starch derivative selected such that the well fluid has the following characteristics:

(a) a low shear rate viscosity greater than about 5,000 centipoise;

(b) a high shear rate viscosity at 511 sec⁻¹ in the range from about 15 to about 70

centipoise measured at 120°F to the well; and

causing the well fluid to travel through at least a portion of the well, wherein the aqueous

monovalent brine system comprises at least 90% of the well fluid, and wherein the aqueous

monovalent brine system consists essentially of at least 0.6 equivalents per liter of a water

soluble monovalent cation salt, wherein the anion of the salt is a halide, wherein the monovalent cation salt is substantially free of divalent cations, and wherein the well fluid is substantially free

of xanthan gum.

16. (New) The method of claim 15, wherein the fluid further comprises a particulate bridging

agent which is substantially insoluble in the aqueous brine.

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17. (New) A monovalent cation containing well fluid comprising: an aqueous monovalent-brine system, and a viscosifying agent including a starch derivative, wherein the starch derivative is a pregelatinized crosslinked amylopectin starch which has been crosslinked to about 25% to about 60% of the maximum attainable viscosity, wherein the aqueous monovalent brine system comprises at least 90% of the well fluid, and wherein the aqueous monovalent brine system consists essentially of at least 0.6 equivalents per liter of a water soluble monovalent cation salt, wherein the anion of the salt is a halide, wherein the monovalent cation salt is substantially free of divalent cations, and wherein the well fluid is substantially free of xanthan gum.

18. (New) The monovalent cation containing well fluid of Claim 17, wherein the pregelatinized crosslinked amylopectin starch comprises less than 10 wt% amylase.